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POWDER RIVER

TRACT PROFILE
SPRING CREEK TRACT, MONTANA

U.S. GEOLOGICAL SURVEY
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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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SITE SPECIFIC ANALYSIS
10. SPRING CREEK

INTRODUCTION

A. PURPOSE AND NEED

The purpose of this analysis is to comply with the Secretary of Interior's decision that a sufficient number of tracts be delineated and selected for sale from the areas designated in land use plans as acceptable for further consideration for leasing to meet the regional leasing target. As a result of the 1979 Powder River Management Framework Plan (MFP) Update, federal coal in this tract was identified for further consideration for development through competitive leasing.

It should be noted that the acreage and legal description of federal coal discussed in this Site Specific Analysis is limited to those areas that have been included in the comprehensive land-use plan, in accordance with Section 3(A)(i) of the Federal Coal Leasing Amendments Act of 1976, and the decision of the U.S. Secretary of Interior June 2, 1979, that the coal to be selected for sale come "from the areas designated in land-use plans as acceptable for further consideration," (page 60 of Volume I of the Secretarial Issue Document). The coal deposit tonnage listed from the Engineering Report of the U.S. Geological Survey includes areas outside of the BLM planning area.

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I. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

This alternative would have no significant effect on the existing mining operation. Mining will continue within the economical mining unit (EMU) as approved by the Office of Surface Mining and the Montana Department of State Lands. Should the coal not be leased, progress of mining could create a "by-pass" situation and the potential resource addressed herein would not be recovered.

B. PROPOSED ACTION

The proposed action is to offer for lease 658 acres of land in southeastern Big Horn County containing approximately 41 million tons of recoverable coal for development as a mine extension. This is all that remains to be leased within the economical mining unit (EMU). The EMU contains approximately:

2,365 acres of leased federal coal
657 acres of leased state coal
658 acres of unleased federal coal

The 658 acres are all that remain to be leased within the designated EMU. All 658 acres are within an existing mine permit area. See Map 1 for location, legal description and status of proposed action.

The action could increase the production rate of 7.0 million tons per year to a maximum of 10 million tons per year. The life of this mine would no be extended beyond 25 years. Employment will not change. No additional disturbance for facilities or haul roads would occur.

As the existing operation has been permitted under existing state and federal regulations, proper mining and reclamation will be carried out.

Tract Delineation Report Summary

Tract Name: Spring Creek State: Montana

The Spring tract is located in the center of the northern Powder River Basin, Big Horn County, Montana. The tract contains two recoverable coal beds, the Anderson and Dietz, which are present in two seams.

The coal deposit occurs in the top part of the Fort Union Formation (Paleocene), which comprises approximately 3,000 feet of sandstones, shales, siltstones, and coal seams. The formation occurs in nearly flat-lying beds. The coal is subbituminous in rank and weighs 1,770 tons per acre-foot. There are no known geologic hazards to surface mining in the Spring Creek tract. See the tract profile summary for the salient geologic data for the tract.

The generic mining plan calls for a surface mine using draglines, electric shovels, dump trucks, loaders, scrapers, and other support equipment. The coal would thus be mined to a depth of 200 feet or until the limiting stripping ratio (6:1) has been reached. The plan indicates that the coal would be shipped by railroad to an electrical utility out of the Powder River Region.

Tract Profile Summary

Spring Creek

Coal Data	Proposed Action
Total Reserves (Million Tons Strippable)	42
Recoverable Reserves (Million Tons)	federal 38 (total 41)
Average Coal Thickness (Ft.)	76
Average Overburden (Ft.)	110
Coal Rank	subbituminous
Percent Recovery	90
Proximate Coal Analysis	
Percent Moisture	24.5
Percent Ash	3.6
Percent Sulfur	0.3
BTUs Per Pound	9,407
Mine Life (Years)	25
Annual Production Rate (Million Tons)	Increasing existing by 3
Tract Area (Acres)	658
Surface Mine/Truck Shovel Operation	
Employment	
Construction	No additional
Mine Operation	No additional
Environmental Data	
Water Requirements	66 acre-feet/year.

TRACT PROFILE INTRODUCTION

Background

In July 1979, the BLM, Miles City District Office completed the Powder River Resource Area update for portions of Powder River, Custer, Big Horn, Treasure and Rosebud counties. The land use planning process included applying unsuitability criteria, multiple-use conflict evaluation, and surface owner consultations. As a result of that work, areas were identified that could be further considered for coal development. The areas are available for consideration for new competitive leasing, leasing by exchanging and modifying existing leases.

Following land-use planning the BLM requested expression of interest which, along with other information, guided the GS in delineating this tract. Results of that work are summarized in this profile.

Personnel from BLM, Miles City District inventoried the tract to determine the site specific resource values and then analyzed potential environmental effects of coal development on this individual tract. Among other items, the unsuitability criteria (43 CFR 3461) were reconsidered on this site-specific basis. Any new findings of unsuitability are reflected in the delineation and development proposal of the tract described in this profile.

To be further considered for new competitive leasing, the tract will be presented to the Regional Coal Team who guides and reviews tract ranking and selection and sale scheduling procedures that develop alternatives which would be analyzed in a regional environmental impact statement (EIS). The EIS would analyze the site-specific and regional cumulative effects of coal leasing and development. Alternatives addressed in the EIS would include different combinations of tracts that meet a regional coal leasing target. The analysis of those groups of tracts would result in different impacts than the assessment made in this document for this specific tract. During the process this preliminary tract could be modified. Ultimately, the Secretary will select specific tracts for lease sale. If the tract is leased, the lessee would be required to submit a plan for mining and reclamation (M&R) to the Secretary of Interior, Office of Surface Mining (OSM) for review and approval within 3 years after leasing. Once a mining plan has been submitted, OSM would review the proposed developments of the mining plan. OSM would prepare a site-specific environmental assessment or EIS prior to approval of the mine plan.

Development of the tract is in accordance with the federal coal management program adopted by the Secretary, Department of the Interior, in June 1979. Basis of the program was, in part, the Final Environmental Statement for the Federal Coal Management Program. Implementation procedures are contained in Title 43 - Code of Federal Regulations - Part 3400 (43 CFR 3400). Authorizing actions are The Mineral Leasing Act of 1920, as amended; The Mineral Leasing Act for Acquired Lands of 1947, as amended; the Federal Land Policy and Management Act of 1976; the Surface Mining Control and Reclamation Act of 1977; the Multiple Mineral Development Act of 1954; the Department of Energy Organization Act of 1977; the National Environmental Policy Act of 1969; the Federal Coal Leasing Amendments Act of 1976, as amended; the Act of October 30, 1978, and Federal Regulations concerning federal coal leasing and development including 43 CFR 3400; 30 CFR 211; and 30 CFR 700-899.

In adopting the coal program, the Secretary established a tentative competitive coal leasing target of 776 million tons for 1982 in the Powder River Region of Wyoming and Montana. Subsequent sales would then follow on a 2 to 4 year cycle.

Purpose and Need for Action

Purpose of the action is to offer strippable federal coal reserves that can be further considered for coal leasing and development to help meet the energy needs of the nation.

This tract profile contains a summary of the tract delineation report and a site-specific analysis (SSA). The United States Department of the Interior, Geological Survey (GS) delineated the tract while the Bureau of Land Management (BLM) completed the site-specific environmental inventory and preliminary analysis.

Figure 1.2-1

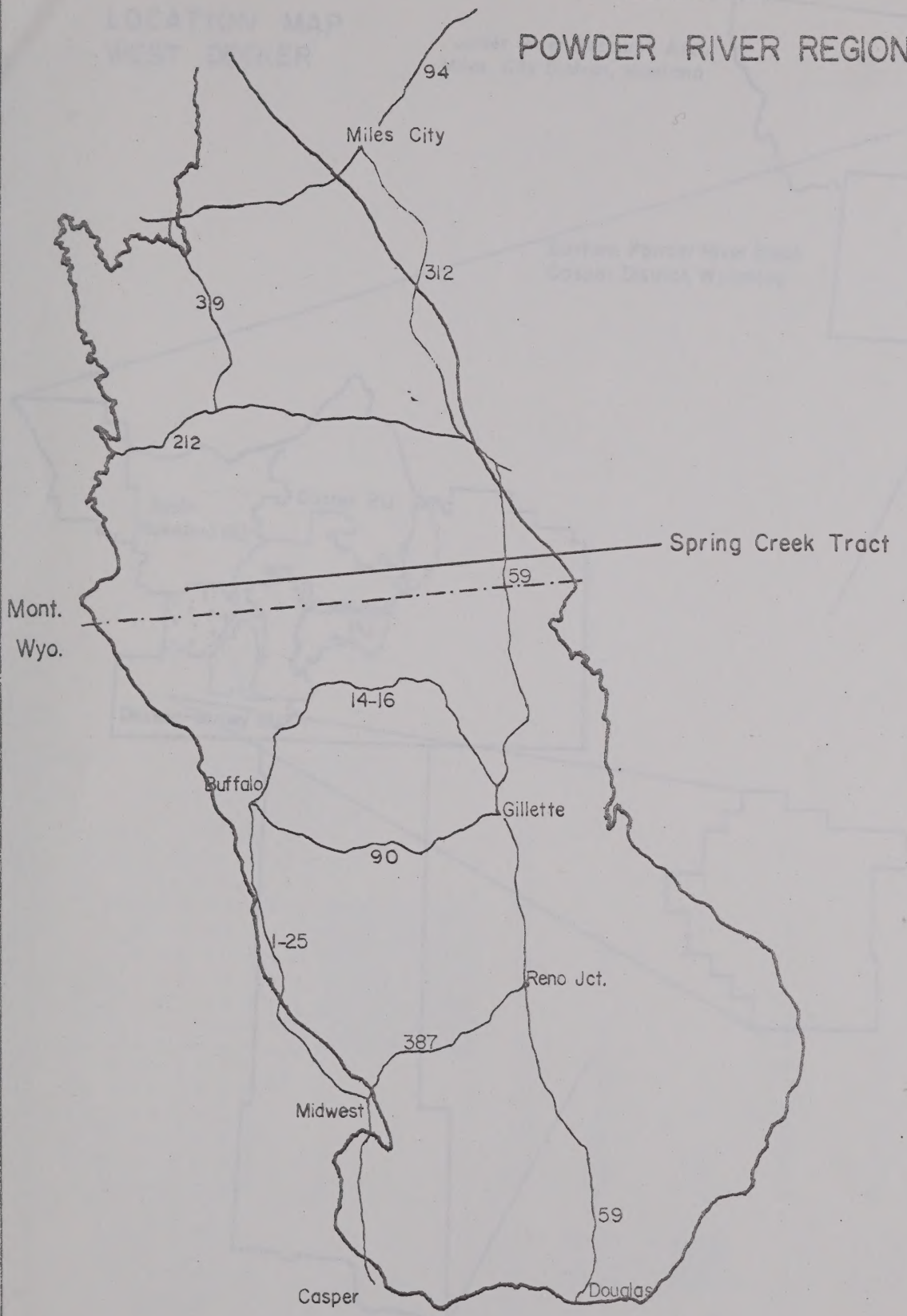
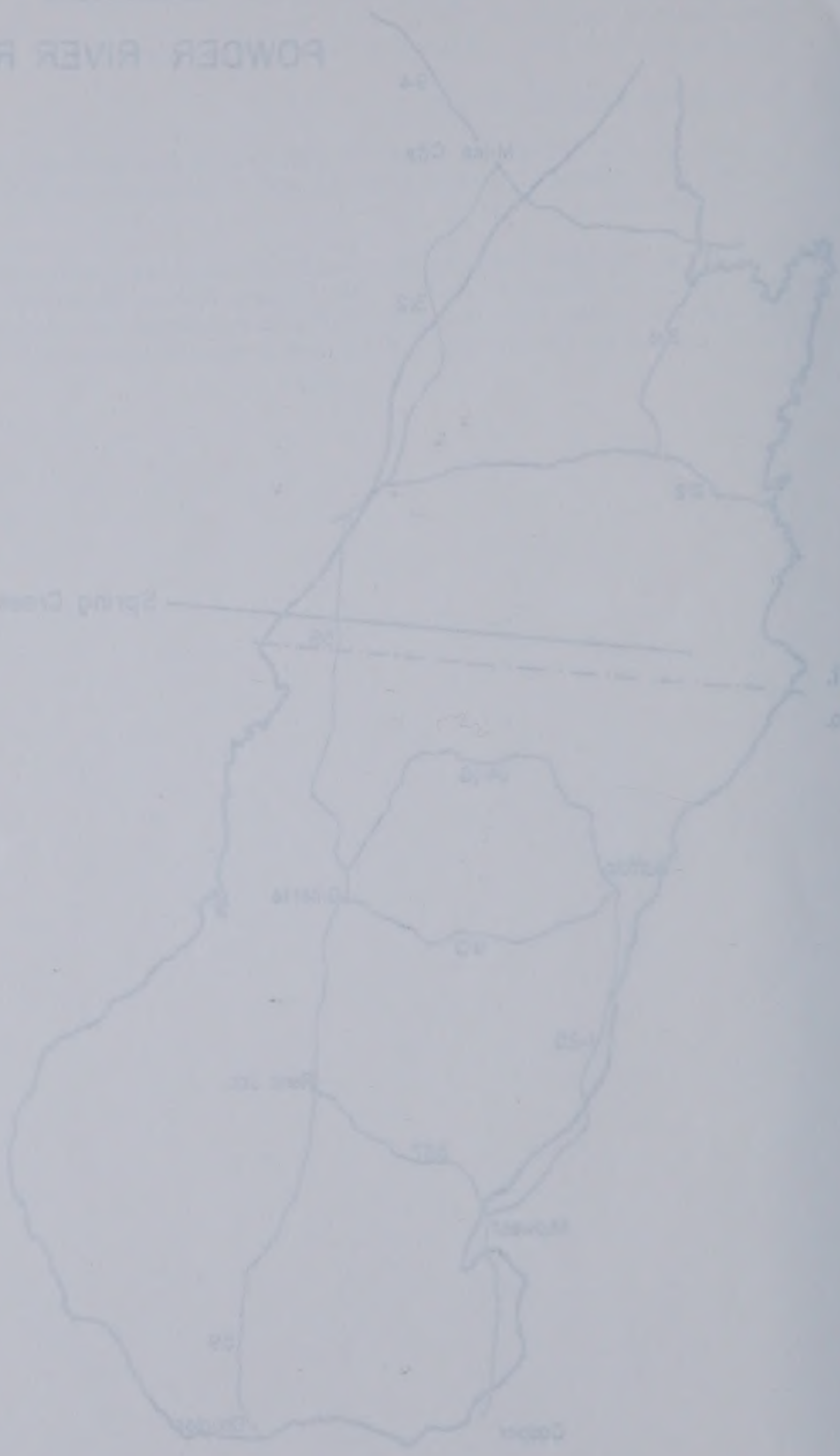
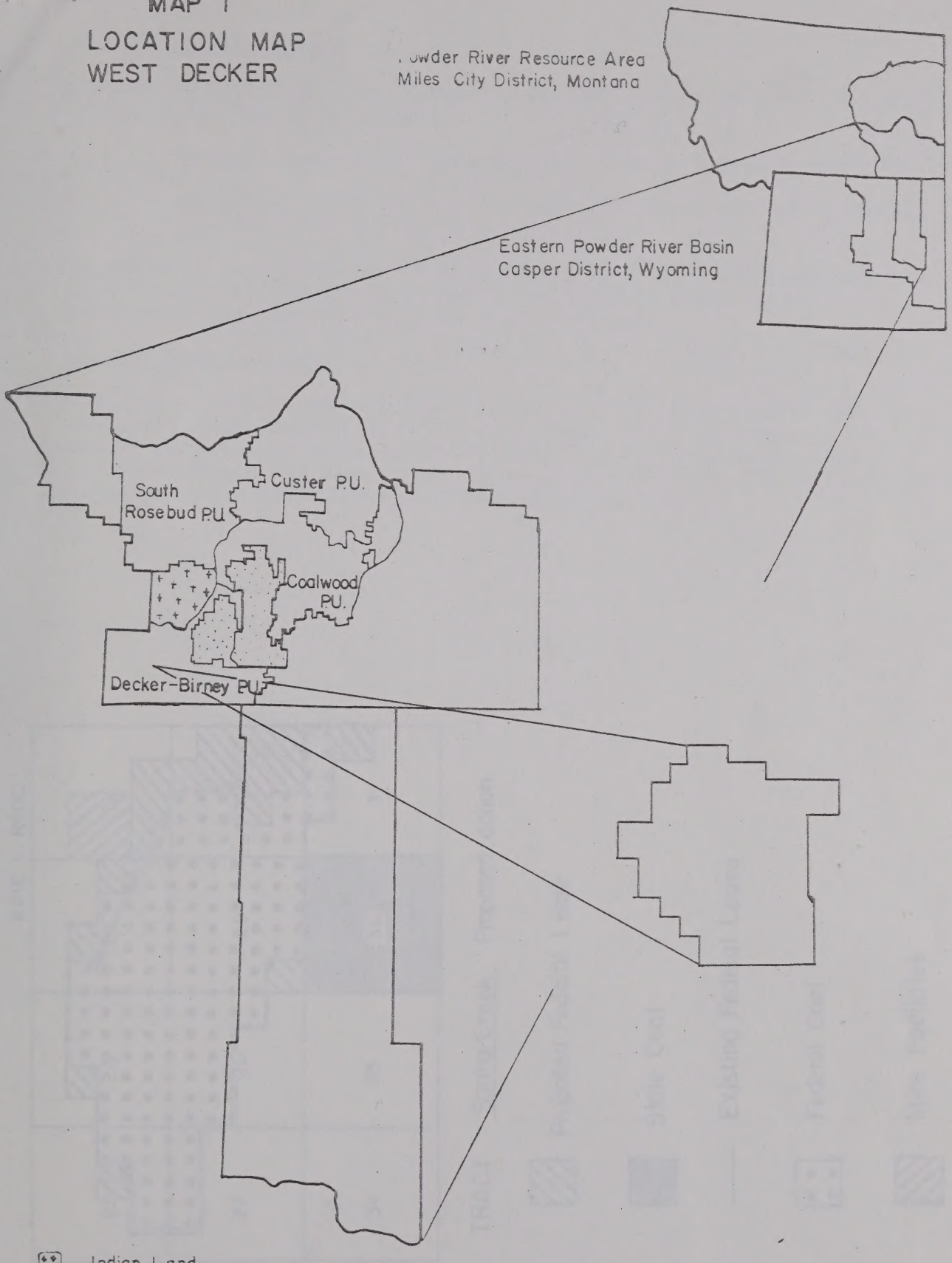
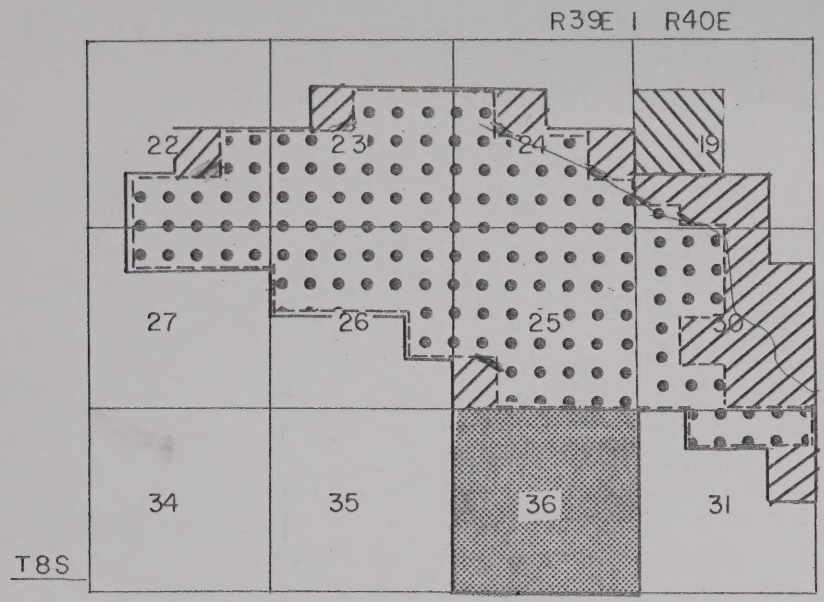


FIGURE 1.2-1



MAP 1
LOCATION MAP
WEST DECKER





TRACT Spring Creek Proposed action

Proposed Federal Lease

State Coal

Existing Federal Lease

Federal Coal

Mine Facilities

II. AFFECTED ENVIRONMENT

The existing environment and the impacts from the ongoing operation have been covered in the following documents:

Northern Powder River Basin Coal EIS, U.S. Geological Survey, 1979.

Environmental Statement Spring Creek Mine, Big Horn County, Montana, U.S. Geological Survey, 1979.

No additional disturbance beyond those discussed in the above documents would occur. Leasing of this 658 acres would have an insignificant effect on the environment when associated with the existing operation.

III. NET ENERGY ANALYSIS

A net energy analysis was calculated using the guidance contained in BLM Washington Office Information Memo 79-282, August 1979. Approximately 38 British thermal units (BTUs) would be expended to produce a pound of coal. That pound of coal, in turn, would produce about 8,462 BTUs. The ratio of energy produced to that expended is over 225 BTUs/1 BTU.

The net energy relationship (ratio of energy produced to energy consumed) for the West Decker EMU is 373 to 1.[1]

[1] Based on the Btu value per pound of coal as given in the tract delineation reports and on an average input energy value of 25.6 Btu's of energy consumed for each pound of coal produced (average of the energy consumption of the Decker mines as described by USGS in a 1977 EIS and the WECO area B expansion as described by the Montana Department of State Lands in a 1978 EIS). Only direct energy consumption was considered (the ratios shown do not contain any estimate of energy used in transporting the coal from the mine to the demand center).

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